ABSTRACT

A preferred embodiment comprises a method for determining value-at-risk based on tick-by-tick financial data. Major steps of the method comprise the following: (1) financial market transaction data is electronically received by a computer; (2) the received financial market transaction data is electronically; (3) a time series z is constructed that models the received financial market transaction data; (4) an exponential moving average operator is constructed; (5) an operator is constructed that is based on the exponential moving average operator; (6) a causal operator $\Omega[z]$ is constructed that is based on the iterated exponential moving average operator; (7) values of predictive factors are calculated; (8) the values calculated by the computer are stored in a computer readable medium, and (9) value-at-risk is calculated from the values stored in step (8).